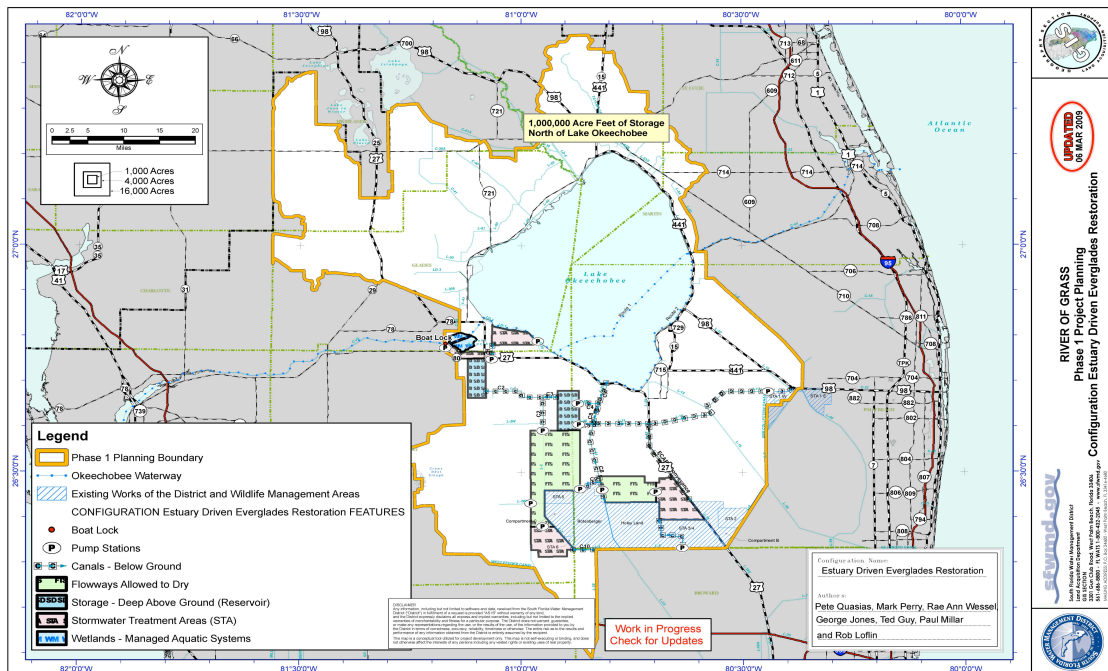


Estuary Driven Everglades Restoration (EDER)

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This configuration is intended to achieve large reductions in Lake-triggered high discharges to the Northern Estuaries while maximizing storage features north of Lake Okeechobee and maximizing storage and conveyance features south of Lake Okeechobee to meet the Caloosahatchee Estuary minimum flow level and dry season Everglades demand targets.



Major Components:

- North Deep Storage - 1,000,000 acre-feet
- South Deep Storage - 349,812 acre-feet
- South Shallow Storage - 241,213 acre-feet
- West Shallow Storage - 9,750 acre-feet
- South Stormwater Treatment Area - 39,436 net acres of treatment area

General Description of How Water Flows Through System/Operational Intent:

Rainfall from the drainage basins north of structure S-65E is captured, stored, treated and released to Lake Okeechobee consistent with the goals and objectives of the Lake Okeechobee Phase II Technical Plan (LOTP). Additional conveyance is provided to move excess flows from the S-5A/L-8 Basin to the centrally located stormwater treatment areas (STAs) for treatment. Lake Okeechobee regulatory discharges are diverted away from the Northern Estuaries in storage features where flows are attenuated and stored to meet dry season irrigation and downstream natural system demand targets. Lake Okeechobee and storage is managed to provide base flows/meet

minimum flows and levels (MFLs) to the Caloosahatchee Estuary. Most water is either pumped or gravity fed into deep storage reservoirs and then is either pumped or gravity fed into shallow flowway systems that are allowed to go dry. Flowway water is then routed through STAs for additional treatment prior to delivering water via pump to the Everglades. In addition, an STA is located on the western side of Lake Okeechobee to treat S-4 Basin flows and a water management area is located at Lake Hicpochee.

Total Acreage Identified:

- 75,000 acres north of Lake Okeechobee
- 131,093 acres south of Lake Okeechobee
- 4,343 acres west of Lake Okeechobee

Of the total acreage identified 39,641 acres is in public ownership and the remaining 170,795 acres would need to be acquired.

Hydrologic Performance: Achieved 96% (overall result of three (3) months total in Lake-triggered high discharges during the 41-year period of record) reduction in Lake-triggered high discharges to the estuaries. Received a 83% standard score for Lake Okeechobee Stage Envelope Standard Score Above. Received a 98% standard score for Everglades demand target delivered and a 98% standard score for dry season Everglades demand target delivered.

Water Quality Performance: This configuration requires an additional 0 to 14,300 acres of Stormwater Treatment Area depending on inflow phosphorous concentration from Lake Okeechobee and whether the shallow storage features are allowed to go dry.

Environmental / Ecological Advantages or Benefits: This configuration incorporates deep storage, shallow storage, treatment areas and water management areas and has a high degree of operational flexibility. It emphasizes providing base flows to the Caloosahatchee Estuary and reducing damaging discharges to both estuaries. Provides an opportunity to treat water flowing from the S-4 Basin into Lake Okeechobee and Caloosahatchee River by rerouting southward and treating before entering the Everglades

Environmental / Ecological Impacts or Concerns: With such a large acreage needed for storage north of Lake Okeechobee, chances are high that existing wetlands and/or threatened or endangered species will be impacted by the configuration footprint. Uncertainty of effects of reservoirs deeper than 12 feet on the ambient water quality.

Increased Spatial Extent of Shallow Storage/Treatment (\leq 4 feet water depth): 114,058 total acres. Results of relative landscape viability comparisons between the alternative configurations (based on maintenance of minimum depths) indicate that this configuration fell in the moderate range.

Economic / Recreational Advantages or Benefits: Provides for the enhancement of Lake Hicpochee as an identified water management area inclusive of a new navigation lock and dam facility.

Economic / Recreational Impacts or Concerns: Results of relative sugarcane production comparison between alternative configurations indicated that this configuration fell in the high range.

Major Infrastructure Impacts: Attempts were made to minimize the magnitude of major infrastructure impacts where possible. However, it became apparent during the planning configuration exercise that when planning configuration components over large geographic areas that all infrastructure impacts could not be completely avoided when defining certain configuration features. Potential infrastructure impacts for this planning configuration include but are not limited to roadways, bridges, railroads, power transmission lines, and urban areas. Pump stations, control structures and additional canals will need to be constructed to offset impacts to local 298 drainage districts.

Operations and Maintenance (O&M) Considerations (if any): This configuration includes a large number of pump stations (15 pump stations) and a large number of components (10 separate components) which will increase O&M complexity and costs. This configuration contains a substantial amount of embankment (primarily ≤ 9 feet height) that will have to be maintained.

Uncertainty Concerns: Level of water quality performance achieved through the use of unmanaged flowway systems that are allowed to dry out as part of the hydrologic cycle in favor of meeting both irrigation and natural system dry season demands. Hydraulic uncertainties related to flowways.